

Claims 1, 20, 27 and 28 stand rejected under 35 U.S.C. §102(a) as being anticipated by Wang. Applicants respectfully traverse this rejection. In fact, Wang is not even prior art to the present invention. Wang first published in China on August 30, 2001. The present application was filed in the United States on June 14, 2000. Hence, the disclosure of Wang did not occur prior to the Applicants' invention of the present invention. Accordingly, Applicants respectfully request withdrawal of this rejection.

Claims 1, 3, 20, 27 and 28 stand rejected under 35 U.S.C. §102(b) as being anticipated by Lindon. Applicants respectfully traverse this rejection.

The mineralized drinking water which contains calcium ions described by Lindon is very different from the calcium fortified beverage composition of the present invention. First, the drinking water of Lindon is mineralized. As set forth in the present specification at page 8, lines 1-13, the present calcium fortified beverage composition contains purified water, a.k.a., demineralized water or water that has been treated to remove substantially all mineral content of the water prior to supplementation with calcium. Second, the mineralized drinking water of Lindon specifically excludes the presence of sodium or potassium ions. By contrast, such ions may be present in the calcium fortified beverage composition of the present invention. Third, Lindon does not specifically mention providing calcium in the form of a hydrate form of calcium sulfate; in fact, calcium chloride is preferred therein. The present invention requires a hydrate form of calcium sulfate. Finally, the amount of calcium present in the mineralized water of Lindon, i.e., 60-125 mg/L, would not provide at least 10% of the U.S. RDV per serving. By contrast, calcium is contained in the calcium fortified beverage composition of the present invention in such an amount as to deliver at least 10% of the U.S. RDV per serving, i.e., at

least 417 mg/L, while at the same time maintaining a desirable bland, neutral taste. In sum, it is clear that none of the key features of the present invention is disclosed or suggested by Lindon. Accordingly, Applicants respectfully request withdrawal of this rejection.

Claims 1, 20, 27 and 28 stand rejected under 35 U.S.C. §102(b) as being anticipated by JRC KK (JP 4-271894). Applicants respectfully traverse this rejection.

JRC KK is directed to a very specific water treatment process. According to JRC KK, water suitable for a number of purposes including drinking and containing an undisclosed amount of calcium is obtained via the specific water treatment process. In a first step, water is treated with an ultrafilter and/or with a reverse osmosis membrane. In a second step, the water is then treated with an unglazed ceramic obtained by sintering (700-1100°C in a reducing atmosphere) a cylindrical moulding containing Paleozoic era clay having a fossil layer and monazite. In a third step, the water is then treated with a material containing calcium sulfate from coral. JRC KK contains no disclosure related to the amount of calcium contained in water having been treated in such a manner. JRC KK does set forth that the finally processed water does possess a somewhat sweet taste.

The process described by JRC KK and the water obtained by such process are very different from the water fortification process and water obtained thereby according to the present invention. Any amount of calcium contained in the water of JRC KK is an incidentally and arbitrarily small amount present by virtue of the water having been “treated” with a material containing calcium sulfate. By contrast, according to the present invention, a hydrate form of calcium sulfate is directly added to purified water to produce a calcium fortified beverage composition. The calcium fortified beverage composition of the present invention contains at least 10% of the U.S. RDV per serving. What is more, the

water of JRC KK has a slightly sweet taste arguably imparted by the water treatment steps. By contrast, according to the present invention, absent the addition of certain flavor ingredients, the calcium fortified beverage composition purposely possesses a very bland, neutral taste. What is more, JRC KK altogether fails to disclose the use of a hydrate form of calcium sulfate. It is clear that JRC KK fails to disclose or suggest the key features of the present invention, and Applicants therefore respectfully request withdrawal of this rejection.

Claims 1-19, 21-26, 29 and 30 stand rejected under 35 U.S.C. §103(a) as being obvious over Braun in view of Wang and Couzy. Applicants respectfully traverse this rejection. In this regard, Applicants note once again that Wang is not prior art to the present invention.

Braun relates to a certain type of calcium fortified beverages. As set forth in the present specification at pages 2-3, Braun is specifically directed to the use of calcium sulfate, preferably in combination with calcium chloride, to improve the solubility of other calcium sources (mainly calcium hydroxide and calcium carbonate), in the presence of significant amounts of edible acids such as phosphoric and citric acids. The calcium sulfate/calcium chloride combination is said to reduce precipitation and deposition of calcium salts on equipment surfaces during pasteurization. Braun does not disclose or suggest the calcium fortified beverage composition of the present invention which consists essentially of purified water and a hydrate form of calcium sulfate.

At the outset, Braun fails to disclose or suggest the use of a hydrate form of calcium sulfate at all. Further, as noted by the Examiner, the phrase “consisting essentially of” as set forth in claim 1 excludes only those other ingredients which materially affect the

composition. Applicants submit that the variety of other ingredients, especially the additional calcium salts, present in the compositions of Braun would materially affect the present calcium fortified beverage composition. In particular, the taste of the calcium fortified beverage composition of the present invention would be greatly affected. As set forth in the present disclosure, the use of a hydrate form of calcium sulfate alone as the source of calcium in a calcium fortified beverage composition, even at levels of at least 10% U.S. RDV per serving, results in a bland, neutral taste. On the contrary, Applicants submit that the calcium fortified beverages of Braun would not have the same bland, neutral taste by virtue of the presence of the additional ingredients set forth in Braun; in fact, the calcium fortified beverages of Braun would exhibit certain undesirable off tastes. Clearly, the calcium fortified beverages of Braun are different from the calcium fortified beverage composition of the present invention.

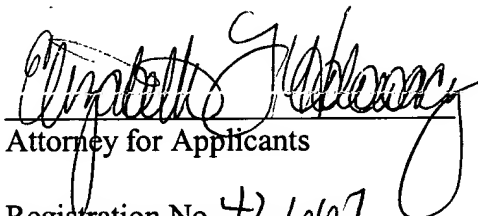
Couzy does not remedy the deficiencies of Braun. In fact, Couzy relates to mineral waters arguably containing calcium sulfate. As noted above, the present invention is not directed to a mineralized water. On the contrary, the present invention contemplates the use of demineralized water. What is more, the mineral waters of Couzy are said to contain calcium ions and sulfate ions; whether these ions are supplied in the form of a hydrate form of calcium sulfate is debatable.

In sum, it is clear that the combination of Braun and Couzy does not render the present invention obvious. There is simply no disclosure or suggestion of the use of a hydrate form of calcium sulfate alone as a source of calcium to produce a calcium fortified beverage composition having a bland, neutral taste. Accordingly, Applicants respectfully request withdrawal of this rejection.

In view of the foregoing remarks, favorable reconsideration and passage to issue of the present case is respectfully requested.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,


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NY_MAIN 188322 v 1



VERSION SHOWING CHANGES MADE TO CLAIMS

1. (Amended) A calcium fortified beverage composition consisting essentially of purified water and a hydrate form of calcium sulfate.

2. (Amended) The calcium fortified beverage composition according to claim 1, wherein the hydrate form of calcium sulfate is calcium sulfate dihydrate.

10. (Amended) A method for producing a calcium fortified beverage composition comprising:

(a) combining a ready to drink beverage and a hydrate form of calcium sulfate to form a solution; and

(b) preserving the solution to form the calcium fortified beverage composition.

11. (Amended) The method according to claim 10, wherein the hydrate form of calcium sulfate is calcium sulfate dihydrate.

12. (Amended) The method according to claim 10, wherein the amount of the hydrate form of calcium sulfate combined with the ready to drink beverage in step (a) is an amount sufficient to provide at least about 10% of U.S. RDV of calcium per serving.

20. (Amended) A beverage composition consisting essentially of a nutritionally significant amount of calcium and purified water, wherein the beverage composition is produced by combining a hydrate form of calcium sulfate and purified water to form a solution.

25. (Amended) The beverage composition according to claim 20 wherein the hydrate form of calcium sulfate is calcium sulfate dihydrate.

NY_MAIN 188917 v 1

Braun

- ☐ uses calcium sulfate in small amounts, preferably in combination with calcium chloride, to improve solubility of other calcium sources in the presence of significant amounts of edible acids
- ☐ the product of present claims 1 and 20 does not contain any calcium source other than calcium sulfate (“consisting of”) and does not contain edible acids
- ☐ “consisting essentially of” closes claims to the possibility of including any additional ingredient which would materially affect the novel or basic characteristic of the present invention
- ☐ additional calcium sources impart flavor and/or off-tastes (chloride: salty; hydroxide: astringent; citrate-malate: malic off-taste) and limit processing options (can’t ozonate, may have to develop salts in situ)
- ☐ edible acids significantly increase pH and limit further processing options

CONCLUSION: BRAUN DOES NOT RENDER THE PRESENT INVENTION OBVIOUS BECAUSE IT WOULD NOT MOTIVATE ONE OF ORDINARY SKILL IN THE ART TO MAKE A BEVERAGE CONTAINING CALCIUM SULFATE AS THE ONLY CALCIUM SOURCE WHICH PROVIDES AT LEAST 10% US RDV

ACTION: DECLARATION REGARDING TASTE OF OTHER SALTS AND PROCESS LIMITATIONS

Couzy

- ☐ calcium and sulfate rich “mineral water” (not necessarily calcium sulfate rich) containing 467 mg/L calcium and significant amounts of magnesium (see p. 1242, table 3)
- ☐ typical naturally occurring “mineral water” - “composition varies widely” - contains any or all of a number of other minerals in addition to calcium and magnesium
- ☐ the product of present claims 1 and 20 does not contain minerals other than calcium
 - ☐ “purified water”, as set forth at page 8 of the present specification, is water that has been treated to remove substantially all mineral content of the water prior to supplementation with calcium
 - ☐ “consisting essentially of” closes claims to the possibility of including any additional ingredient which would materially affect the novel or basic characteristic of the present invention
 - ☐ additional minerals such as magnesium (1) can impart certain undesirable tastes (sulfur, metallic) and (2) negatively impact microbiological risk assessment and control
- ☐ the fact that 467 mg/L calcium occurs naturally doesn’t mean you can get it synthetically - calcium fortification is very tricky (solubility and taste concerns primarily) - no reasonable expectation of success here

- ☐ no disclosure of steps of present claim 10, i.e., combining a ready to drink beverage with a calcium source which provides at least 10% U.S. RDV of calcium and preserving solution

CONCLUSION: COUZY DOES NOT RENDER THE PRESENT INVENTION OBVIOUS BECAUSE IT WOULD NOT MOTIVATE ONE OF ORDINARY SKILL IN THE ART TO MAKE OR PROVIDE ANY GUIDANCE IN SYNTHETICALLY MAKING A BEVERAGE CONTAINING CALCIUM AS THE ONLY MINERAL IN AN AMOUNT OF AT LEAST 10% US RDV

ACTION: DECLARATION REGARDING GENERAL UNDERSTANDING IN ART OF "MINERAL WATER"

Wang

- ☐ Chinese publication no. 1264682 - published 8/30/00
- ☐ Chinese application no. 2000-0102052 - filed 2/24/00 - irrelevant
- ☐ not §102(a) art - not known or used by others in this country or patented or described in a publication in this or a foreign country before the invention thereof by applicant
- ☐ present application filed 6/14/00 - publication occurred 2½ months later
- ☐ not §102(b) art - not patented or described in a printed publication in this or a foreign country or in public use or sale in this country more than one year prior to the date of application for patent
- ☐ present application filed 6/14/00 - publication occurred 2½ months later
- ☐ not §102(e) art - not described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2) and (4) of section 371(c) of this title before invention thereof by applicant for patent
- ☐ Wang not a U.S. application or a PCT application

CONCLUSION: WANG IS NOT PRIOR ART

JRC KK

- ☐ calcium-containing drinking water with a sweet taste
- ☐ therefore, end product different from product of claims 1 and 20, which has a bland, neutral taste
- ☐ partial translation of reference indicates that coral contains calcium carbonate, not calcium sulfate (p.4, table 1) - there is no calcium sulfate at all in the coral
- ☐ additionally, (1) the process of treating water with unglazed ceramic obtained by sintering a cylindrical moulding containing (a) clay of Paleozoic era comprising a fossil layer mainly consisting of diatomaceous earth and (b) monazite at 700-1100°C in a reducing atmosphere may impart other impurities to the water that would not be present in the product of present claims 1 and 20, i.e., Ce, La, Th, silica and (2) only an incidental amount of calcium (as opposed to 10% U.S. RDV) in the water as a result of treatment by coral - calcium not in a soluble form - only leached amount could be present in end product water
- ☐ no disclosure of steps of present claim 10, i.e., combining a ready to drink beverage with a calcium source consisting of calcium sulfate which provides at least 10% U.S. RDV of calcium and preserving solution

CONCLUSION: JRC KK IS IRRELEVANT BECAUSE IT DOES NOT PERTAIN TO CALCIUM SULFATE

ACTION: FULL TRANSLATION OF JP 4-271894

Lindon

- ☐ “mineralized” drinking water necessarily containing strontium, magnesium, calcium and lithium ions as water soluble salts
- ☐ the product of present claims 1 and 20 does not contain minerals other than calcium
- ☐ “purified water”, as set forth at page 8 of the present specification, is water that has been treated to remove substantially all mineral content of the water prior to supplementation with calcium
- ☐ “consisting essentially of” closes claims to the possibility of including any additional ingredient which would materially affect the novel or basic characteristic of the present invention
 - ☐ additional minerals such as strontium, magnesium and lithium (1) can impart certain undesirable tastes (sulfur, metallic) and (2) negatively impact microbiological risk assessment and control
- ☐ Lindon contains only 60-125 mg/L calcium ions
- ☐ the product of present claims 1 and 20 contains at least 10% U.S. RDV, roughly 417 mg/L calcium
- ☐ Lindon prefers the use of calcium chloride
- ☐ not suitable for the present inventive purposes, would impart a salty taste

- ❑ no disclosure of steps of present claim 10, i.e., combining a ready to drink beverage with a calcium source which provides at least 10% U.S. RDV of calcium and preserving solution

CONCLUSION: LINDON DOES NOT RENDER THE PRESENT INVENTION OBVIOUS BECAUSE IT WOULD NOT MOTIVATE ONE OF ORDINARY SKILL IN THE ART TO MAKE A BEVERAGE CONTAINING CALCIUM AS THE ONLY MINERAL IN AN AMOUNT OF AT LEAST 10% US RDV
- LINDON TEACHES LESS CALCIUM, ADDITIONAL MINERALS

ACTION: DECLARATION REGARDING EFFECTS OF ADDITIONAL MINERALS

Calcium Fortification Fact Sheet

100% RDV = 1 g or 1000 mg/serving

Beverage Serving = 8 oz (236.6 ml)

10% RDV = 100 mg / serving

or

10% RDV = 0.1 g / serving

Therefore,

10% RDV = 100 mg / 236.6 ml

or

10% RDV = 0.1 g / 236.6 ml

or

10% RDV = 422 mg / Liter (1000 ml)

or

10% RDV = 0.0422% (w/v)